

TRITIUM RELEASE RATE INTO PRIMARY COOLANT - Data of JMTR, JRR-3M and JRR-4 -

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It has been shown that tritium concentration in the primary coolant of the JMTR and JRR-3M increases during its operation. In this paper, to clarify the tritium sources, the tritium release rate into the primary coolant in each operation cycle for the JMTR, JRR-3M and JRR-4 was evaluated. As a result, the tritium release rate is < 8 Bq/Wd in the JRR-4, which has not the beryllium core components installed, and no increase in the tritium concentration during reactor operation is observed. In contrast, the tritium release rate is about 10~95 and 60~140 Bq/Wd in the JRR-3M and JMTR respectively, which cores contain beryllium components, and where the tritium content increases while reactor operates. It is also observed that the amount of released tritium is lower in the case of new beryllium components installation, and increases with the reactor operating cycle.